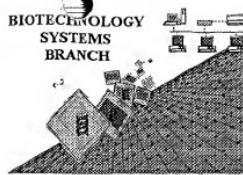


12 D.D.

RAW SEQUENCE LISTING ERROR REPORT



RECEIVED

JUL 17 2001

TECH CENTER 1600/2900

#19

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/084,471B

Source: 1655

Date Processed by STIC: 6/25/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
<http://www.uspto.gov/web/offices/pac/checker>

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:53

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

SEQUENCE LISTING

C--> 5 (1) GENERAL INFORMATION:

7 (i) APPLICANT: Murphy, Patricia
8 White, Marga
9 Olson, Sheri
10 Yoshikawa, Matthew
11 Jackson, Geoffrey
12 Eskanderi, Tara
13 Schryer, Brenda
14 Park, Michael

Does Not Comply
Corrected Diskette Needed

pp 4-10, 13-19,
22-28, 31-37,

40-46

C--> 16 (ii) TITLE OF INVENTION: NOVEL CODING SEQUENCE HAPLOTYPES
OF THE HUMAN BRCA2 GENE

17 (iii) NUMBER OF SEQUENCES: 133

21 (iv) CORRESPONDENCE ADDRESS:

22 (A) ADDRESSEE: Morgan, Lewis & Bockius LLP
23 (B) STREET: 1800 M St., NW
24 (C) CITY: Washington
25 (D) STATE: DC
26 (E) COUNTRY: USA
27 (F) ZIP: 20036

29 (v) COMPUTER READABLE FORM:

30 (A) MEDIUM TYPE: Diskette
31 (B) COMPUTER: IBM Compatible
32 (C) OPERATING SYSTEM: DOS
33 (D) SOFTWARE: FastSEQ for Windows Version 2.0

35 (vi) CURRENT APPLICATION DATA:

36 (A) APPLICATION NUMBER: US/09/084,471B

C--> 37 (B) FILING DATE: 22-May-1998

(C) CLASSIFICATION:

52 (vii) PRIOR APPLICATION DATA:

41 (A) APPLICATION NUMBER: US 60/055,784

42 (B) FILING DATE: 15 August 1997

45 (A) APPLICATION NUMBER: US 60/064,926

46 (B) FILING DATE: 07 November 1997

49 (A) APPLICATION NUMBER: US 60/065,367

50 (B) FILING DATE: 12 November 1997

53 (A) APPLICATION NUMBER: US 09/071,715

54 (B) FILING DATE: 01 May 1998

56 (viii) ATTORNEY/AGENT INFORMATION:

57 (A) NAME: Reid G. Adler

58 (B) REGISTRATION NUMBER: 30,988

59 (C) REFERENCE/DOCKET NUMBER: 44921-5058-01-US

61 (ix) TELECOMMUNICATION INFORMATION:

62 (A) TELEPHONE: 202-467-7000

63 (B) TELEFAX: 202-467-7258

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:53

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

ERRORED SEQUENCES

1009 (2) INFORMATION FOR SEQ ID NO: 5:
 1011 (i) SEQUENCE CHARACTERISTICS:
 1012 (A) LENGTH: 3418 amino acids
 1013 (B) TYPE: amino acid
 1014 (C) STRANDEDNESS: single
 1015 (D) TOPOLOGY: linear
 1017 (ii) MOLECULE TYPE: protein
 1018 (v) FRAGMENT TYPE: internal
 1020 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
 1022 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
 1023 1 5 10 15
 1024 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
 1025 20 25 30
 1026 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
 1027 35 40 45
 1028 Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
 1029 50 55 60
 1030 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
 1031 65 70 75 80
 1032 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
 1033 85 90 95
 1034 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
 1035 100 105 110
 1036 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
 1037 115 120 125
 1038 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
 1039 130 135 140
 1040 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
 1041 145 150 155 160
 1042 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
 1043 165 170 175
 1044 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
 1045 180 185 190
 1046 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
 1047 195 200 205
 1048 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
 1049 210 215 220
 1050 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
 1051 225 230 235 240
 1052 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
 1053 245 250 255
 1054 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
 1055 260 265 270
 1056 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
 1057 275 280 285
 1058 Asn Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
 1059 290 295 300
 1060 Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1061	305	310	315	320
1062	Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala			
1063	325	330	335	
1064	Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr			
1065	340	345	350	
1066	Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser			
1067	355	360	365	
1068	Asn Val Ala His Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser			
1069	370	375	380	
1070	Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gin Leu Thr Leu			
1071	385	390	395	400
1072	Ser Gly Leu Asn Gly Ala Gln Met Glu Lys Ile Pro Leu Leu His Ile			
1073	405	410	415	
1074	Ser Ser Cys Asp Gln Asn Ile Ser Glu Lys Asp Leu Leu Asp Thr Glu			
1075	420	425	430	
1076	Asn Lys Arg Lys Lys Asp Phe Leu Thr Ser Glu Asn Ser Leu Pro Arg			
1077	435	440	445	
1078	Ile Ser Ser Leu Pro Lys Ser Glu Lys Pro Leu Asn Glu Glu Thr Val			
1079	450	455	460	
1080	Val Asn Lys Arg Asp Glu Glu Gln His Leu Glu Ser His Thr Asp Cys			
1081	465	470	475	480
1082	Ile Leu Ala Val Lys Gln Ala Ile Ser Gly Thr Ser Pro Val Ala Ser			
1083	485	490	495	
1084	Ser Phe Gln Gly Ile Lys Lys Ser Ile Phe Arg Ile Arg Glu Ser Pro			
1085	500	505	510	
1086	Lys Glu Thr Phe Asn Ala Ser Phe Ser Gly His Met Thr Asp Pro Asn			
1087	515	520	525	
1088	Phe Lys Lys Glu Thr Glu Ala Ser Glu Ser Gly Leu Glu Ile His Thr			
1089	530	535	540	
1090	Val Cys Ser Gln Lys Glu Asp Ser Leu Cys Pro Asn Leu Ile Asp Asn			
1091	545	550	555	560
1092	Gly Ser Trp Pro Ala Thr Thr Thr Gln Asn Ser Val Ala Leu Lys Asn			
1093	565	570	575	
1094	Ala Gly Leu Ile Ser Thr Leu Lys Lys Lys Thr Asn Lys Phe Ile Tyr			
1095	580	585	590	
1096	Ala Ile His Asp Glu Thr Ser Tyr Lys Gly Lys Lys Ile Pro Lys Asp			
1097	595	600	605	
1098	Gln Lys Ser Glu Leu Ile Asn Cys Ser Ala Gln Phe Glu Ala Asn Ala			
1099	610	615	620	
1100	Phe Glu Ala Pro Leu Thr Phe Ala Asn Ala Asp Ser Gly Leu Leu His			
1101	625	630	635	640
1102	Ser Ser Val Lys Arg Ser Cys Ser Gln Asn Asp Ser Glu Glu Pro Thr			
1103	645	650	655	
1104	Leu Ser Leu Thr Ser Ser Phe Gly Thr Ile Leu Arg Lys Cys Ser Arg			
1105	660	665	670	
1106	Asn Glu Thr Cys Ser Asn Asn Thr Val Ile Ser Gln Asp Leu Asp Tyr			
1107	675	680	685	
1108	Lys Glu Ala Lys Cys Asn Lys Glu Lys Leu Gln Leu Phe Ile Thr Pro			
1109	690	695	700	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1110	Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp			
1111	705	710	715	720
1112	Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala			
1113	725	730	735	
1114	Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp			
1115	740	745	750	
1116	Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr			
1117	755	760	765	
1118	Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met			
1119	770	775	780	
1120	Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly			
1121	785	790	795	800
1122	Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu			
1123	805	810	815	
1124	Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu			
1125	820	825	830	
1126	Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys			
1127	835	840	845	
1128	Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln			
1129	850	855	860	
1130	Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu			
1131	865	870	875	880
1132	Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn			
1133	885	890	895	
1134	Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr			
1135	900	905	910	
1136	Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val			
1137	915	920	925	
1138	Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys			
1139	930	935	940	
1140	Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys			
1141	945	950	955	960
1142	Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser			
1143	965	970	975	
1144	Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys			
1145	980	985	990	
1146	Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser			
1147	995	1000	1005	
1148	Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile			
1149	1010	1015	1020	
1150	Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gin Tyr Pro Thr			
E--> 1151	1025	1030	1035	(10) 1040
1152	Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln			
1153	1045	1050	1055	
1154	Lys Lys Leu Ser Lys Pro Gin Ser Ile Asn Thr Val Ser Ala His Leu			
1155	1060	1065	1070	
1156	Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro			
1157	1075	1080	1085	
1158	Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr			

Please ensure a space
exists between beginning
number and previous
amino acid.

l.S. Thr
1040

6/25/01

When
numbering
the last
amino acid
on a line,
end the number
directly below
last letter of
the amino acid.

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1159	1090	1095	1100	
1160	Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Gln			
E--> 1161	1105	1110	1115	(112) 1/20
1162	Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile			
1163	1125	1130	1135	
1164	Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu			
1165	1140	1145	1150	
1166	Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met			
1167	1155	1160	1165	
1168	Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly			
1169	1170	1175	1180	
1170	Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys			
E--> 1171	1185	1190	1195	(120) 1/200
1172	Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe			
1173	1205	1210	1215	
1174	Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu			
1175	1220	1225	1230	
1176	Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser			
1177	1235	1240	1245	
1178	Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys			
1179	1250	1255	1260	
1180	Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp			
E--> 1181	1265	1270	1275	128
1182	Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn			
1183	1285	1290	1295	
1184	Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn			
1185	1300	1305	1310	
1186	Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser			
1187	1315	1320	1325	
1188	Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn			
1189	1330	1335	1340	
1190	Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp			
E--> 1191	1345	1350	1355	136
1192	Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly			
1193	1365	1370	1375	
1194	Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val			
1195	1380	1385	1390	
1196	Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln			
1197	1395	1400	1405	
1198	Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser			
1199	1410	1415	1420	
1200	Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys			
E--> 1201	1425	1430	1435	144
1202	Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu			
1203	1445	1450	1455	
1204	Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys			
1205	1460	1465	1470	
1206	Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His			
1207	1475	1480	1485	

RAW SEQUENCE LISTING
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Input Set : A:\Gl50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1208 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 1209 1490 1495 1500
 1210 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
 E--> 1211 1505 1510 1515 152
 1212 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Val Lys Ile Ala Lys
 1213 1525 1530 1535
 1214 Glu Ser Leu Asp Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 1215 1540 1545 1550
 1216 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 1217 1555 1560 1565
 1218 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 1219 1570 1575 1580
 1220 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 1221 1585 1590 1595 160
 1222 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 1223 1605 1610 1615
 1224 Ser Asp Asn Leu Cys Arg Gin Thr Glu Asn Leu Lys Thr Ser Lys Ser
 1225 1620 1625 1630
 1226 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 1227 1635 1640 1645
 1228 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 1229 1650 1655 1660
 1230 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 1231 1665 1670 1675 168
 1232 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 1233 1685 1690 1695
 1234 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 1235 1700 1705 1710
 1236 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 1237 1715 1720 1725
 1238 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 1239 1730 1735 1740
 1240 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 1241 1745 1750 1755 176
 1242 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 1243 1765 1770 1775
 1244 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 1245 1780 1785 1790
 1246 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 1247 1795 1800 1805
 1248 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 1249 1810 1815 1820
 1250 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 1251 1825 1830 1835 184
 1252 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 1253 1845 1850 1855
 1254 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 1255 1860 1865 1870
 1256 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001

TIME: 11:40:54

Input Set : A:\G150581u.txt

Output Set: N:\Crf3\06252001\I084471B.raw

1257 1875 1880 1885
 1258 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 1259 1890 1895 1900
 1260 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
E--> 1261 1905 1910 1915 192
 1262 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 1263 1925 1930 1935
 1264 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 1265 1940 1945 1950
 1266 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 1267 1955 1960 1965
 1268 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 1269 1970 1975 1980
 1270 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
E--> 1271 1985 1990 1995 200
 1272 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 1273 2005 2010 2015
 1274 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 1275 2020 2025 2030
 1276 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 1277 2035 2040 2045
 1278 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 1279 2050 2055 2060
 1280 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
E--> 1281 2065 2070 2075 208
 1282 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 1283 2085 2090 2095
 1284 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 1285 2100 2105 2110
 1286 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 1287 2115 2120 2125
 1288 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Ser Ser Glu
 1289 2130 2135 2140
 1290 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
E--> 1291 2145 2150 2155 216
 1292 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 1293 2165 2170 2175
 1294 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 1295 2180 2185 2190
 1296 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 1297 2195 2200 2205
 1298 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 1299 2210 2215 2220
 1300 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
E--> 1301 2225 2230 2235 224
 1302 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 1303 2245 2250 2255
 1304 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 1305 2260 2265 2270

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

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Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1306 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 1307 2275 2280 2285
 1308 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 1309 2290 2295 2300
 1310 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
E--> 1311 2305 . 2310 2315 232
 1312 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 1313 2325 2330 2335
 1314 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 1315 2340 2345 2350
 1316 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu
 1317 2355 2360 2365
 1318 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
 1319 2370 2375 2380
 1320 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
E--> 1321 2385 . 2390 2395 240
 1322 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
 1323 2405 2410 2415
 1324 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
 1325 2420 2425 2430
 1326 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
 1327 2435 2440 2445
 1328 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
 1329 2450 2455 2460
 1330 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
E--> 1331 2465 . 2470 2475 248
 1332 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
 1333 2485 2490 2495
 1334 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
 1335 2500 2505 2510
 1336 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
 1337 2515 2520 2525
 1338 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
 1339 2530 2535 2540
 1340 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
E--> 1341 2545 . 2550 2555 256
 1342 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
 1343 2565 2570 2575
 1344 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
 1345 2580 2585 2590
 1346 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
 1347 2595 2600 2605
 1348 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
 1349 2610 2615 2620
 1350 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
E--> 1351 2625 . 2630 2635 264
 1352 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
 1353 2645 2650 2655
 1354 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1355	2660	2665	2670
1356	Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu		
1357	2675	2680	2685
1358	Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser		
1359	2690	2695	2700
1360	Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu		
E--> 1361	2705	2710	2715
1362	Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu		
1363	2725	2730	2735
1364	Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile		
1365	2740	2745	2750
1366	Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu		
1367	2755	2760	2765
1368	Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg		
1369	2770	2775	2780
1370	Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro		
E--> 1371	2785	2790	2795
1372	Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly		
1373	2805	2810	2815
1374	Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu		
1375	2820	2825	2830
1376	Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu Glu		
1377	2835	2840	2845
1378	Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala		
1379	2850	2855	2860
1380	Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu His Glu Glu Asn Thr		
E--> 1381	2865	2870	2875
1382	Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg		
1383	2885	2890	2895
1384	Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala		
1385	2900	2905	2910
1386	Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala		
1387	2915	2920	2925
1388	Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile		
1389	2930	2935	2940
1390	Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln		
E--> 1391	2945	2950	2955
1392	Gly Leu Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser		
1393	2965	2970	2975
1394	Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro		
1395	2980	2985	2990
1396	Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile		
1397	2995	3000	3005
1398	Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn		
1399	3010	3015	3020
1400	Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val		
E--> 1401	3025	3030	3035
1402	Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His		
1403	3045	3050	3055

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/084-471B

DATE: 06/25/2001

TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

1404 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 1405 3060 3065 3070
 1406 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 1407 3075 3080 3085
 1408 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 1409 3090 3095 3100
 1410 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
E--> 1411 3105 3110 3115 312
 1412 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 1413 3125 3130 3135
 1414 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
 1415 3140 3145 3150
 1416 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
 1417 3155 3160 3165
 1418 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
 1419 3170 3175 3180
 1420 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
E--> 1421 3185 3190 3195 320
 1422 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Len
 1423 3205 3210 3215
 1424 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
 1425 3220 3225 3230
 1426 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
 1427 3235 3240 3245
 1428 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
 1429 3250 3255 3260
 1430 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
E--> 1431 3265 3270 3275 328
 1432 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
 1433 3285 3290 3295
 1434 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
 1435 3300 3305 3310
 1436 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
 1437 3315 3320 3325
 1438 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
 1439 3330 3335 3340
 1440 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
E--> 1441 3345 3350 3355 336
 1442 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
 1443 3365 3370 3375
 1444 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
 1445 3380 3385 3390
 1446 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
 1447 3395 3400 3405
 1448 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
 1449 3410 3415
 2337 (2) INFORMATION FOR SEQ ID NO: 7:
 2339 (i) SEQUENCE CHARACTERISTICS:
 2340 (A) LENGTH: 3418 amino acids

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2341 (B) TYPE: amino acid
 2342 (C) STRANDEDNESS: single
 2343 (D) TOPOLOGY: linear
 2345 (ii) MOLECULE TYPE: protein
 2346 (v) FRAGMENT TYPE: internal
 2347 (ix) FEATURE:
 2348 (A) NAME/KEY: variation
 2349 (B) LOCATION: 1132
 2350 (D) OTHER INFORMATION: Xaa = Lys (from codon AAR,
 2351 R = A or G).
 2353 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
 2355 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
 2356 1 5 10 15
 2357 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
 2358 20 25 30
 2359 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
 2360 35 40 45
 2361 Glu Ser Glu His Lys Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
 2362 50 55 60
 2363 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
 2364 65 70 75 80
 2365 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
 2366 85 90 95
 2367 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
 2368 100 105 110
 2369 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
 2370 115 120 125
 2371 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
 2372 130 135 140
 2373 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
 2374 145 150 155 160
 2375 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
 2376 165 170 175
 2377 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
 2378 180 185 190
 2379 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
 2380 195 200 205
 2381 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
 2382 210 215 220
 2383 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
 2384 225 230 235 240
 2385 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
 2386 245 250 255
 2387 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
 2388 260 265 270
 2389 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
 2390 275 280 285
 2391 Asn Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
 2392 290 295 300

RP. 13-19

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2393	Glu	Asp	Ser	Phe	Ser	Leu	Cys	Phe	Ser	Lys	Cys	Arg	Thr	Lys	Asn	Leu
2394	305					310				315						320
2395	Gln	Lys	Val	Arg	Thr	Ser	Lys	Thr	Arg	Lys	Ile	Phe	His	Glu	Ala	
2396						325				330						335
2397	Asn	Ala	Asp	Glu	Cys	Glu	Lys	Ser	Lys	Asn	Gln	Val	Lys	Glu	Lys	Tyr
2398						340				345						350
2399	Ser	Phe	Val	Ser	Glu	Val	Glu	Pro	Asn	Asp	Thr	Asp	Pro	Leu	Asp	Ser
2400						355				360						365
2401	Asn	Val	Ala	His	Gln	Lys	Pro	Phe	Glu	Ser	Gly	Ser	Asp	Lys	Ile	Ser
2402						370				375						380
2403	Lys	Glu	Val	Val	Pro	Ser	Leu	Ala	Cys	Glu	Trp	Ser	Gln	Leu	Thr	Leu
2404						385				390						395
2405	Ser	Gly	Leu	Asn	Gly	Ala	Gln	Met	Glu	Lys	Ile	Pro	Leu	Leu	His	Ile
2406						405				410						415
2407	Ser	Ser	Cys	Asp	Gln	Asn	Ile	Ser	Glu	Lys	Asp	Leu	Asp	Thr	Glu	
2408						420				425						430
2409	Asn	Lys	Arg	Lys	Lys	Asp	Phe	Leu	Thr	Ser	Glu	Asn	Ser	Leu	Pro	Arg
2410						435				440						445
2411	Ile	Ser	Ser	Leu	Pro	Lys	Ser	Glu	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Val
2412						450				455						460
2413	Val	Asn	Lys	Arg	Asp	Glu	Glu	Gln	His	Leu	Glu	Ser	His	Thr	Asp	Cys
2414						465				470						475
2415	Ile	Leu	Ala	Val	Lys	Gln	Ala	Ile	Ser	Gly	Thr	Ser	Pro	Val	Ala	Ser
2416						485				490						495
2417	Ser	Phe	Gln	Gly	Ile	Lys	Lys	Ser	Ile	Phe	Arg	Ile	Arg	Glu	Ser	Pro
2418						500				505						510
2419	Lys	Glu	Thr	Phe	Asn	Ala	Ser	Phe	Ser	Gly	His	Met	Thr	Asp	Pro	Asn
2420						515				520						525
2421	Phe	Lys	Lys	Glu	Thr	Glu	Ala	Ser	Glu	Ser	Gly	Leu	Glu	Ile	His	Thr
2422						530				535						540
2423	Val	Cys	Ser	Gln	Lys	Glu	Asp	Ser	Leu	Cys	Pro	Asn	Leu	Ile	Asp	Asn
2424						545				550						555
2425	Gly	Ser	Trp	Pro	Ala	Thr	Thr	Thr	Gln	Asn	Ser	Val	Ala	Leu	Lys	Asn
2426						565				570						575
2427	Ala	Gly	Leu	Ile	Ser	Thr	Leu	Lys	Lys	Thr	Asn	Lys	Phe	Ile	Tyr	
2428						580				585						590
2429	Ala	Ile	His	Asp	Glu	Thr	Ser	Tyr	Lys	Gly	Lys	Lys	Ile	Pro	Lys	Asp
2430						595				600						605
2431	Gln	Lys	Ser	Glu	Leu	Ile	Asn	Cys	Ser	Ala	Gln	Phe	Glu	Ala	Asn	Ala
2432						610				615						620
2433	Phe	Glu	Ala	Pro	Leu	Thr	Phe	Ala	Asn	Ala	Asp	Ser	Gly	Leu	Leu	His
2434						625				630						635
2435	Ser	Ser	Val	Lys	Arg	Ser	Cys	Ser	Gln	Asn	Asp	Ser	Glu	Glu	Pro	Thr
2436						645				650						655
2437	Leu	Ser	Leu	Thr	Ser	Ser	Phe	Gly	Thr	Ile	Leu	Arg	Lys	Cys	Ser	Arg
2438						660				665						670
2439	Asn	Glu	Thr	Cys	Ser	Asn	Asn	Thr	Val	Ile	Ser	Gln	Asp	Leu	Asp	Tyr
2440						675				680						685
2441	Lys	Glu	Ala	Lys	Cys	Asn	Lys	Glu	Lys	Leu	Gln	Leu	Phe	Ile	Thr	Pro

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\Gl50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2442	690	695	700		
2443	Glu Ala Asp Ser Leu Ser Cys Leu Gln Glu Gly Gln Cys Glu Asn Asp	705	710	715	720
2444					
2445	Pro Lys Ser Lys Lys Val Ser Asp Ile Lys Glu Glu Val Leu Ala Ala	725	730	735	
2446					
2447	Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp	740	745	750	
2448					
2449	Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr	755	760	765	
2450					
2451	Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met	770	775	780	
2452					
2453	Ile Ser Arg Gly Lys Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly	785	790	795	800
2454					
2455	Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu	805	810	815	
2456					
2457	Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu	820	825	830	
2458					
2459	Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys	835	840	845	
2460					
2461	Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln	850	855	860	
2462					
2463	Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu	865	870	875	880
2464					
2465	Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn	885	890	895	
2466					
2467	Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr	900	905	910	
2468					
2469	Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val	915	920	925	
2470					
2471	Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys	930	935	940	
2472					
2473	Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys	945	950	955	960
2474					
2475	Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser	965	970	975	
2476					
2477	Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys	980	985	990	
2478					
2479	Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser	995	1000	1005	
2480					
2481	Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile	1010	1015	1020	
2482					
2483	Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro	1025	1030	1035	104
E--> 2484					
2485	Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln	1045	1050	1055	
2486					
2487	Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu	1060	1065	1070	
2488					
2489	Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro	1075	1080	1085	
2490					

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2491 Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr
 2492 1090 1095 1100
 2493 Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu
 E--> 2494 1105 1110 1115 112
 W--> 2495 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Xaa Pro Ser Tyr Ile
 2496 1125 1130 1135
 2497 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
 2498 1140 1145 1150
 2499 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
 2500 1155 1160 1165
 2501 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
 2502 1170 1175 1180
 2503 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
 E--> 2504 1185 1190 1195 120
 2505 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 2506 1205 1210 1215
 2507 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 2508 1220 1225 1230
 2509 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 2510 1235 1240 1245
 2511 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 2512 1250 1255 1260
 2513 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
 E--> 2514 1265 1270 1275 128
 2515 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 2516 1285 1290 1295
 2517 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Ile Thr Glu Asn
 2518 1300 1305 1310
 2519 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 2520 1315 1320 1325
 2521 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 2522 1330 1335 1340
 2523 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
 E--> 2524 1345 1350 1355 136
 2525 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 2526 1365 1370 1375
 2527 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 2528 1380 1385 1390
 2529 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
 2530 1395 1400 1405
 2531 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
 2532 1410 1415 1420
 2533 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
 E--> 2534 1425 1430 1435 144
 2535 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 2536 1445 1450 1455
 2537 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 2538 1460 1465 1470
 2539 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His

*same
error*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2540 1475 1480 1485
 2541 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 2542 1490 1495 1500
 2543 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
E--> 2544 1505 1510 1515 152
 2545 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 2546 1525 1530 1535
 2547 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 2548 1540 1545 1550
 2549 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 2550 1555 1560 1565
 2551 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 2552 1570 1575 1580
 2553 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
E--> 2554 1585 1590 1595 160
 2555 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 2556 1605 1610 1615
 2557 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 2558 1620 1625 1630
 2559 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 2560 1635 1640 1645
 2561 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 2562 1650 1655 1660
 2563 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
E--> 2564 1665 1670 1675 168
 2565 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 2566 1685 1690 1695
 2567 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 2568 1700 1705 1710
 2569 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 2570 1715 1720 1725
 2571 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 2572 1730 1735 1740
 2573 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
E--> 2574 1745 1750 1755 176
 2575 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 2576 1765 1770 1775
 2577 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 2578 1780 1785 1790
 2579 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 2580 1795 1800 1805
 2581 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 2582 1810 1815 1820
 2583 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
E--> 2584 1825 1830 1835 184
 2585 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 2586 1845 1850 1855
 2587 Glu Thr Ile Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 2588 1860 1865 1870

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\r084471B.raw

2589 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 2590 1875 1880 1885
 2591 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 2592 1890 1895 1900
 2593 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
E--> 2594 1905 1910 1915 192
 2595 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 2596 1925 1930 1935
 2597 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 2598 1940 1945 1950
 2599 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 2600 1955 1960 1965
 2601 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 2602 1970 1975 1980
 2603 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
E--> 2604 1985 1990 1995 200
 2605 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 2606 2005 2010 2015
 2607 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 2608 2020 2025 2030
 2609 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 2610 2035 2040 2045
 2611 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 2612 2050 2055 2060
 2613 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
E--> 2614 2065 2070 2075 208
 2615 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 2616 2085 2090 2095
 2617 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 2618 2100 2105 2110
 2619 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 2620 2115 2120 2125
 2621 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 2622 2130 2135 2140
 2623 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
E--> 2624 2145 2150 2155 216
 2625 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 2626 2165 2170 2175
 2627 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 2628 2180 2185 2190
 2629 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 2630 2195 2200 2205
 2631 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 2632 2210 2215 2220
 2633 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
E--> 2634 2225 2230 2235 224
 2635 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 2636 2245 2250 2255
 2637 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2638 2260 2265 2270
 2639 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 2640 2275 2280 2285
 2641 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 2642 2290 2295 2300
 2643 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
E--> 2644 2305 2310 2315 2320
 2645 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 2646 2325 2330 2335
parce
 2647 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 2648 2340 2345 2350
 2649 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu
 2650 2355 2360 2365
 2651 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln
 2652 2370 2375 2380
 2653 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly
E--> 2654 2385 2390 2395 2400
 2655 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe
 2656 2405 2410 2415
 2657 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg
 2658 2420 2425 2430
 2659 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys
 2660 2435 2440 2445
 2661 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln
 2662 2450 2455 2460
 2663 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu
E--> 2664 2465 2470 2475 248
 2665 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys
 2666 2485 2490 2495
 2667 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu
 2668 2500 2505 2510
 2669 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly
 2670 2515 2520 2525
 2671 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly
 2672 2530 2535 2540
 2673 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe
E--> 2674 2545 2550 2555 256
 2675 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly
 2676 2565 2570 2575
 2677 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp
 2678 2580 2585 2590
 2679 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro
 2680 2595 2600 2605
 2681 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr
 2682 2610 2615 2620
 2683 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys
E--> 2684 2625 2630 2635 264
 2685 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu
 2686 2645 2650 2655

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2687 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile
 2688 2660 2665 2670
 2689 Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu
 2690 2675 2680 2685
 2691 Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser
 2692 2690 2695 2700
 2693 Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu
E--> 2694 2705 2710 2715 2722
 2695 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
 2696 2725 2730 2735
 2697 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 2698 2740 2745 2750
 2699 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 2700 2755 2760 2765
 2701 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 2702 2770 2775 2780
 2703 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
E--> 2704 2785 2790 2795 280
 2705 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 2706 2805 2810 2815
 2707 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 2708 2820 2825 2830
 2709 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu
 2710 2835 2840 2845
 2711 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Lys Arg Leu Glu Ala
 2712 2850 2855 2860
 2713 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
E--> 2714 2865 2870 2875 288
 2715 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 2716 2885 2890 2895
 2717 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 2718 2900 2905 2910
 2719 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Leu Arg Ala
 2720 2915 2920 2925
 2721 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 2722 2930 2935 2940
 2723 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
E--> 2724 2945 2950 2955 296
 2725 Gly Leu Ser Arg Asp Val Thr Val Trp Lys Leu Arg Ile Val Ser
 2726 2965 2970 2975
 2727 Tyr Ser Lys Lys Gln Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 2728 2980 2985 2990
 2729 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 2730 2995 3000 3005
 2731 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Lys Ser Glu Arg Ala Asn
 2732 3010 3015 3020
 2733 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
E--> 2734 3025 3030 3035 304
 2735 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

2736	3045	3050	3055
2737 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val	3060	3065	3070
2738			
2739 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala	3075	3080	3085
2740			
2741 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys	3090	3095	3100
2742			
2743 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile	3105	3110	3115
E--> 2744			312
2745 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu	3125	3130	3135
2746			
2747 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu	3140	3145	3150
2748			
2749 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn	3155	3160	3165
2750			
2751 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu	3170	3175	3180
2752			
2753 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser	3185	3190	3195
E--> 2754			320
2755 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu	3205	3210	3215
2756			
2757 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu	3220	3225	3230
2758			
2759 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met	3235	3240	3245
2760			
2761 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn	3250	3255	3260
2762			
2763 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro	3265	3270	3275
E--> 2764			328
2765 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys	3285	3290	3295
2766			
2767 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile	3300	3305	3310
2768			
2769 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe	3315	3320	3325
2770			
2771 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu	3330	3335	3340
2772			
2773 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys	3345	3350	3355
E--> 2774			336
2775 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser	3365	3370	3375
2776			
2777 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys	3380	3385	3390
2778			
2779 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys	3395	3400	3405
2780			
2781 Gln Asp Thr Ile Thr Thr Lys Tyr Ile	3410	3415	
2782			
3666 (2) INFORMATION FOR SEQ ID NO: 9:			
3668 (i) SEQUENCE CHARACTERISTICS:			

pp 22-28

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

3669	(A) LENGTH: 3418 amino acids
3670	(B) TYPE: amino acid
3671	(C) STRANDEDNESS: single
3672	(D) TOPOLOGY: linear
3674	(ii) MOLECULE TYPE: protein
3675	(v) FRAGMENT TYPE: internal
3677	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
3679	Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
3680	1 5 10 15
3681	Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
3682	20 25 30
3683	Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
3684	35 40 45
3685	Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
3686	50 55 60
3687	Pro Gln Arg Lys Pro Ser Tyr'Asn Gln Leu Ala Ser Thr Pro Ile Ile
3688	65 70 75 80
3689	Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
3690	85 90 95
3691	Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
3692	100 105 110
3693	Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
3694	115 120 125
3695	Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
3696	130 135 140
3697	Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
3698	145 150 155 160
3699	Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
3700	165 170 175
3701	Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
3702	180 185 190
3703	Ser Trp Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
3704	195 200 205
3705	Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
3706	210 215 220
3707	Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
3708	225 230 235 240
3709	Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
3710	245 250 255
3711	Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
3712	260 265 270
3713	Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
3714	275 280 285
3715	His Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
3716	290 295 300
3717	Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu
3718	305 310 315 320
3719	Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala
3720	325 330 335

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

3721	Asn	Ala	Asp	Glu	Cys	Glu	Lys	Ser	Lys	Asn	Gln	Val	Lys	Glu	Lys	Tyr
				340					345						350	
3722	Ser	Phe	Val	Ser	Glu	Val	Glu	Pro	Asn	Asp	Thr	Asp	Pro	Leu	Asp	Ser
				355					360						365	
3723	Asn	Val	Ala	Asn	Gln	Lys	Pro	Phe	Glu	Ser	Gly	Ser	Asp	Lys	Ile	Ser
				370					375						380	
3724	Lys	Glu	Val	Val	Pro	Ser	Leu	Ala	Cys	Glu	Trp	Ser	Gln	Leu	Thr	Leu
				385					390						395	
3725	Ser	Gly	Leu	Asn	Gly	Ala	Gln	Met	Glu	Lys	Ile	Pro	Leu	Leu	His	Ile
				405					410						415	
3726	Ser	Ser	Cys	Asp	Gln	Asn	Ile	Ser	Glu	Lys	Asp	Leu	Leu	Asp	Thr	Glu
				420					425						430	
3727	Asn	Lys	Arg	Lys	Asp	Phe	Leu	Thr	Ser	Glu	Asn	Ser	Leu	Pro	Arg	
				435					440						445	
3728	Ile	Ser	Ser	Leu	Pro	Lys	Ser	Glu	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Val
				450					455						460	
3729	Val	Asn	Lys	Arg	Asp	Glu	Glu	Gln	His	Leu	Glu	Ser	His	Thr	Asp	Cys
				465					470						475	
3730	Ile	Leu	Ala	Val	Lys	Gln	Ala	Ile	Ser	Gly	Thr	Ser	Pro	Val	Ala	Ser
				485					490						495	
3731	Ser	Phe	Gln	Gly	Ile	Lys	Lys	Ser	Ile	Phe	Arg	Ile	Arg	Glu	Ser	Pro
				500					505						510	
3732	Lys	Glu	Thr	Phe	Asn	Ala	Ser	Phe	Ser	Gly	His	Met	Thr	Asp	Pro	Asn
				515					520						525	
3733	Phe	Lys	Lys	Glu	Thr	Glu	Ala	Ser	Glu	Ser	Gly	Leu	Glu	Ile	His	Thr
				530					535						540	
3734	Val	Cys	Ser	Gln	Lys	Glu	Asp	Ser	Leu	Cys	Pro	Asn	Leu	Ile	Asp	Asn
				545					550						555	
3735	Gly	Ser	Trp	Pro	Ala	Thr	Thr	Thr	Gln	Asn	Ser	Val	Ala	Leu	Lys	Asn
				565					570						575	
3736	Ala	Gly	Leu	Ile	Ser	Thr	Leu	Lys	Lys	Asn	Thr	Asn	Lys	Phe	Ile	Tyr
				580					585						590	
3737	Ala	Ile	His	Asp	Glu	Thr	Ser	Tyr	Lys	Gly	Lys	Lys	Ile	Pro	Lys	Asp
				595					600						605	
3738	Gln	Lys	Ser	Glu	Leu	Ile	Asn	Cys	Ser	Ala	Gln	Phe	Glu	Ala	Asn	Ala
				610					615						620	
3739	Phe	Glu	Ala	Pro	Leu	Thr	Phe	Ala	Asn	Ala	Asp	Ser	Gly	Leu	Leu	His
				625					630						635	
3740	Ser	Ser	Val	Lys	Arg	Ser	Cys	Ser	Gln	Asn	Asp	Ser	Glu	Glu	Pro	Thr
				645					650						655	
3741	Leu	Ser	Leu	Thr	Ser	Phe	Gly	Thr	Ile	Leu	Arg	Lys	Cys	Ser	Arg	
				660					665						670	
3742	Asn	Glu	Thr	Cys	Ser	Asn	Asn	Thr	Val	Ile	Ser	Gln	Asp	Leu	Asp	Tyr
				675					680						685	
3743	Lys	Glu	Ala	Lys	Cys	Asn	Lys	Glu	Lys	Leu	Gln	Phe	Ile	Thr	Pro	
				690					695						700	
3744	Glu	Ala	Asp	Ser	Leu	Ser	Cys	Leu	Gln	Glu	Gly	Gln	Cys	Glu	Asn	Asp
				705					710						715	
3745	Pro	Lys	Ser	Lys	Lys	Val	Ser	Asp	Ile	Lys	Glu	Glu	Val	Leu	Ala	Ala

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
 TIME: 11:40:54

Input Set : A:\G150581u.txt
 Output Set: N:\CRF3\06252001\I084471B.raw

3770	Ala Cys His Pro Val Gln His Ser Lys Val Glu Tyr Ser Asp Thr Asp	725	730	735
3771	740	745	750	
3772				
3773	Phe Gln Ser Gln Lys Ser Leu Leu Tyr Asp His Glu Asn Ala Ser Thr	755	760	765
3774				
3775	Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met	770	775	780
3776				
3777	Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp lys Leu Lys Gly	785	790	795
3778				800
3779	Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu	805	810	815
3780				
3781	Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu	820	825	830
3782				
3783	Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys	835	840	845
3784				
3785	Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln	850	855	860
3786				
3787	Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu	865	870	875
3788				880
3789	Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn	885	890	895
3790				
3791	Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr	900	905	910
3792				
3793	Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val	915	920	925
3794				
3795	Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys	930	935	940
3796				
3797	Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys	945	950	955
3798				960
3799	Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser	965	970	975
3800				
3801	Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asp Lys	980	985	990
3802				
3803	Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser	995	1000	1005
3804				
3805	Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile	1010	1015	1020
3806				
3807	Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thx	1025	1030	1035
E--> 3808				(104) 1040
3809	Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln	1045	1050	1055
3810				
3811	Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu	1060	1065	1070
3812				
3813	Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro	1075	1080	1085
3814				
3815	Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr	1090	1095	1100
3816				
3817	Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Gln	1105	1110	1115
E--> 3818				(112) 1120

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

3819 Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile
3820 1125 1130 1135
3821 Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu
3822 1140 1145 1150
3823 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
3824 1155 1160 1165
3825 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
3826 1170 1175 1180
3827 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
E--> 3828 1185 1190 1195 120
3829 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
3830 1205 1210 1215
3831 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
3832 1220 1225 1230
3833 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
3834 1235 1240 1245
3835 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
3836 1250 1255 1260
3837 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
E--> 3838 1265 1270 1275 128
3839 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
3840 1285 1290 1295
3841 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
3842 1300 1305 1310
3843 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
3844 1315 1320 1325
3845 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
3846 1330 1335 1340
3847 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
E--> 3848 1345 1350 1355 136
3849 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
3850 1365 1370 1375
3851 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
3852 1380 1385 1390
3853 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
3854 1395 1400 1405
3855 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
3856 1410 1415 1420
3857 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
E--> 3858 1425 1430 1435 144
3859 Glu Ser Phe Asn Lys Ile Val Asn Phe Asp Gln Lys Pro Glu Glu
3860 1445 1450 1455
3861 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
3862 1460 1465 1470
3863 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
3864 1475 1480 1485
3865 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
3866 1490 1495 1500
3867 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

E--> 3868 1505 1510 1515 152
 3869 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 3870 1525 1530 1535
 3871 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gly
 3872 1540 1545 1550
 3873 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 3874 1555 1560 1565
 3875 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu
 3876 1570 1575 1580
 3877 Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn
 E--> 3878 1585 1590 1595 160
Damn
 3879 Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu
 3880 1605 1610 1615
 3881 Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser
 3882 1620 1625 1630
 3883 Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala
 3884 1635 1640 1645
 3885 Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile
 3886 1650 1655 1660
 3887 Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser
 E--> 3888 1665 1670 1675 168
 3889 Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly
 3890 1685 1690 1695
 3891 Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly
 3892 1700 1705 1710
 3893 Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp
 3894 1715 1720 1725
 3895 Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser
 3896 1730 1735 1740
 3897 Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser
 E--> 3898 1745 1750 1755 176
 3899 Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu
 3900 1765 1770 1775
 3901 Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser
 3902 1780 1785 1790
 3903 Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile
 3904 1795 1800 1805
 3905 Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn
 3906 1810 1815 1820
 3907 Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly
 E--> 3908 1825 1830 1835 184
 3909 Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His
 3910 1845 1850 1855
 3911 Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys
 3912 1860 1865 1870
 3913 Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys
 3914 1875 1880 1885
 3915 Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu
 3916 1890 1895 1900

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

3917 His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val
E--> 3918 1905 1910 1915 192
 3919 Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met
 3920 1925 1930 1935
 3921 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 3922 1940 1945 1950
 3923 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 3924 1955 1960 1965
 3925 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 3926 1970 1975 1980
 3927 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
E--> 3928 1985 1990 1995 200
 3929 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 3930 2005 2010 2015
 3931 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 3932 2020 2025 2030
 3933 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 3934 2035 2040 2045
 3935 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 3936 2050 2055 2060
 3937 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
E--> 3938 2065 2070 2075 208
 3939 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 3940 2085 2090 2095
 3941 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 3942 2100 2105 2110
 3943 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 3944 2115 2120 2125
 3945 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Ser Ser Glu
 3946 2130 2135 2140
 3947 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
E--> 3948 2145 2150 2155 216
 3949 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 3950 2165 2170 2175
 3951 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 3952 2180 2185 2190
 3953 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 3954 2195 2200 2205
 3955 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 3956 2210 2215 2220
 3957 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
E--> 3958 2225 2230 2235 224
 3959 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 3960 2245 2250 2255
 3961 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 3962 2260 2265 2270
 3963 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 3964 2275 2280 2285
 3965 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
 TIME: 11:40:54

Input Set : A:\G150581u.txt
 Output Set: N:\CRF3\06252001\I084471B.raw

3966	2290	2295	2300
3967 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu			
E--> 3968 2305	2310	2315	232
3969 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg			
3970	2325	2330	2335
3971 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro			
3972	2340	2345	2350
3973 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu			
3974	2355	2360	2365
3975 Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln			
3976	2370	2375	2380
3977 Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly			
E--> 3978 2385	2390	2395	240
3979 Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe			
3980	2405	2410	2415
3981 His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Asn Arg			
3982	2420	2425	2430
3983 Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys			
3984	2435	2440	2445
3985 Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln			
3986	2450	2455	2460
3987 Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu			
E--> 3988 2465	2470	2475	248
3989 Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys			
3990	2485	2490	2495
3991 Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu			
3992	2500	2505	2510
3993 Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly			
3994	2515	2520	2525
3995 Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly			
3996	2530	2535	2540
3997 Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe			
E--> 3998 2545	2550	2555	256
3999 Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly			
4000	2565	2570	2575
4001 Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp			
4002	2580	2585	2590
4003 Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro			
4004	2595	2600	2605
4005 Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr			
4006	2610	2615	2620
4007 Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys			
E--> 4008 2625	2630	2635	264
4009 Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu			
4010	2645	2650	2655
4011 Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile			
4012	2660	2665	2670
4013 Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu			
4014	2675	2680	2685

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\G150581u.txt
Output Set: N:\Crf3\06252001\I084471B.raw

4015 Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser
 4016 2690 2695 2700
 4017 Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu
E--> 4018 2705 2710 2715 272
 4019 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
 4020 2725 2730 2735
 4021 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 4022 2740 2745 2750
 4023 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 4024 2755 2760 2765
 4025 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 4026 2770 2775 2780
 4027 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
E--> 4028 2785 2790 2795 280
 4029 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 4030 2805 2810 2815
 4031 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 4032 2820 2825 2830
 4033 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu
 4034 2835 2840 2845
 4035 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 4036 2850 2855 2860
 4037 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu His Glu Glu Glu Asn Thr
E--> 4038 2865 2870 2875 288
 4039 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 4040 2885 2890 2895
 4041 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 4042 2900 2905 2910
 4043 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 4044 2915 2920 2925
 4045 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 4046 2930 2935 2940
 4047 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
E--> 4048 2945 2950 2955 296
 4049 Gly Leu Ser Arg Asp Val Thr Thr Val Trp Lys Leu Arg Ile Val Ser
 4050 2965 2970 2975
 4051 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 4052 2980 2985 2990
 4053 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 4054 2995 3000 3005
 4055 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Glu Arg Ala Asn
 4056 3010 3015 3020
 4057 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
E--> 4058 3025 3030 3035 304
 4059 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 4060 3045 3050 3055
 4061 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 4062 3060 3065 3070
 4063 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:54

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

4064	3075	3080	3085
4065	Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys		
4066	3090	3095	3100
4067	Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile		
E--> 4068	3105	3110	3115
			312
4069	Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu		
4070	3125	3130	3135
4071	Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu		
4072	3140	3145	3150
4073	Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn		
4074	3155	3160	3165
4075	Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu		
4076	3170	3175	3180
E--> 4077	His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser		
	3185	3190	3195
			<i>Done</i>
4079	Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu		
4080	3205	3210	3215
4081	Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu		
4082	3220	3225	3230
4083	Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met		
4084	3235	3240	3245
4085	Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn		
4086	3250	3255	3260
4087	Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro		
E--> 4088	3265	3270	3275
			328
4089	Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys		
4090	3285	3290	3295
4091	Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile		
4092	3300	3305	3310
4093	Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe		
4094	3315	3320	3325
4095	Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu		
4096	3330	3335	3340
4097	Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys		
E--> 4098	3345	3350	3355
			336
4099	Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser		
4100	3365	3370	3375
4101	Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys		
4102	3380	3385	3390
4103	Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys		
4104	3395	3400	3405
4105	Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile		
4106	3410	3415	
4990	(2) INFORMATION FOR SEQ ID NO: 11:		
4992	(i) SEQUENCE CHARACTERISTICS:		
4993	(A) LENGTH: 3418 amino acids		
4994	(B) TYPE: amino acid		
4995	(C) STRANDEDNESS: single		
4996	(D) TOPOLOGY: linear		

pr 31-39

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

4998 (ii) MOLECULE TYPE: protein
 4999 (v) FRAGMENT TYPE: internal
 5001 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
 5003 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Glu Ile Phe Lys
 5004 1 5 10 15
 5005 Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe
 5006 20 25 30
 5007 Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu
 5008 35 40 45
 5009 Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr
 5010 50 55 60
 5011 Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile
 5012 65 70 75 80
 5013 Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys
 5014 85 90 95
 5015 Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser
 5016 100 105 110
 5017 Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp
 5018 115 120 125
 5019 Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val
 5020 130 135 140
 5021 Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val
 5022 145 150 155 160
 5023 Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr
 5024 165 170 175
 5025 Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met
 5026 180 185 190
 5027 Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val
 5028 195 200 205
 5029 Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp
 5030 210 215 220
 5031 Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu
 5032 225 230 235 240
 5033 Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr
 5034 245 250 255
 5035 Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn
 5036 260 265 270
 5037 Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro
 5038 275 280 285
 5039 Asn Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu
 5040 290 295 300
 5041 Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu
 5042 305 310 315 320
 5043 Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Lys Ile Phe His Glu Ala
 5044 325 330 335
 5045 Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr
 5046 340 345 350
 5047 Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser
 5048 355 360 365

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5049	Asn	Val	Ala	His	Gln	Lys	Pro	Phe	Glu	Ser	Gly	Ser	Asp	Lys	Ile	Ser	
5050	370					375								380			
5051	Lys	Glu	Val	Val	Pro	Ser	Leu	Ala	Cys	Glu	Trp	Ser	Gln	Leu	Thr	Leu	
5052	385					390					395				400		
5053	Ser	Gly	Leu	Asn	Gly	Ala	Gln	Met	Gl	Lys	Ile	Pro	Leu	Leu	His	Ile	
5054								405			410				415		
5055	Ser	Ser	Cys	Asp	Gln	Asn	Ile	Ser	Glu	Lys	Asp	Leu	Asp	Thr	Glu		
5056							420			425				430			
5057	Asn	Lys	Arg	Lys	Lys	Asp	Phe		Leu	Thr	Ser	Glu	Asn	Ser	Leu	Pro	Arg
5058			435						440					445			
5059	Ile	Ser	Ser	Leu	Pro	Lys	Ser	Glu	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Val	
5060							450			455				460			
5061	Val	Asn	Lys	Arg	Asp	Glu	Glu	Gln	His	Leu	Glu	Ser	His	Thr	Asp	Cys	
5062								470			475				480		
5063	Ile	Leu	Ala	Val	Lys	Gln	Ala	Ile	Ser	Gly	Thr	Ser	Pro	Val	Ala	Ser	
5064							485			490				495			
5065	Ser	Phe	Gln	Gly	Ile	Lys	Lys	Ser	Ile	Phe	Arg	Ile	Arg	Glu	Ser	Pro	
5066							500			505				510			
5067	Lys	Glu	Thr	Phe	Asn	Ala	Ser	Phe	Ser	Gly	His	Met	Thr	Asp	Pro	Asn	
5068							515			520				525			
5069	Phe	Lys	Lys	Glu	Thr	Glu	Ala	Ser	Glu	Ser	Gly	Leu	Glu	Ile	His	Thr	
5070							530			535				540			
5071	Val	Cys	Ser	Gln	Lys	Glu	Asp	Ser	Leu	Cys	Pro	Asn	Leu	Ile	Asp	Asn	
5072							545			550				555			560
5073	Gly	Ser	Trp	Pro	Ala	Thr	Thr	Thr	Gln	Asn	Ser	Val	Ala	Leu	Lys	Asn	
5074							565			570				575			
5075	Ala	Gly	Leu	Ile	Ser	Thr	Leu	Lys	Lys	Thr	Asn	Lys	Phe	Ile	Tyr		
5076							580			585				590			
5077	Ala	Ile	His	Asp	Glu	Thr	Ser	Tyr	Lys	Gly	Lys	Lys	Ile	Pro	Lys	Asp	
5078							595			600				605			
5079	Gln	Lys	Ser	Glu	Leu	Ile	Asn	Cys	Ser	Ala	Gln	Phe	Glu	Ala	Asn	Ala	
5080							610			615				620			
5081	Phe	Glu	Ala	Pro	Leu	Thr	Phe	Ala	Asn	Ala	Asp	Ser	Gly	Leu	Leu	His	
5082							625			630				635			640
5083	Ser	Ser	Val	Lys	Arg	Ser	Cys	Ser	Gln	Asn	Asp	Ser	Glu	Glu	Pro	Thr	
5084							645			650				655			
5085	Leu	Ser	Leu	Thr	Ser	Ser	Phe	Gly	Thr	Ile	Leu	Arg	Lys	Cys	Ser	Arg	
5086							660			665				670			
5087	Asn	Glu	Thr	Cys	Ser	Asn	Asn	Thr	Val	Ile	Ser	Gln	Asp	Leu	Asp	Tyr	
5088							675			680				685			
5089	Lys	Glu	Ala	Lys	Cys	Asn	Lys	Glu	Lys	Leu	Gln	Leu	Phe	Ile	Thr	Pro	
5090							690			695				700			
5091	Glu	Ala	Asp	Ser	Leu	Ser	Cys	Leu	Gln	Glu	Gly	Gln	Cys	Glu	Asn	Asp	
5092							705			710				715			720
5093	Pro	Lys	Ser	Lys	Lys	Val	Ser	Asp	Ile	Lys	Glu	Glu	Val	Leu	Ala	Ala	
5094							725			730				735			
5095	Ala	Cys	His	Pro	Val	Gln	His	Ser	Lys	Val	Glu	Tyr	Ser	Asp	Thr	Asp	
5096							740			745				750			
5097	Phe	Gln	Ser	Gln	Lys	Ser	Leu	Leu	Tyr	Asp	His	Glu	Asn	Ala	Ser	Thr	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G15058lu.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5098	755	760	765
5099	Leu Ile Leu Thr Pro Thr Ser Lys Asp Val Leu Ser Asn Leu Val Met		
5100	770	775	780
5101	Ile Ser Arg Gly Lys Glu Ser Tyr Lys Met Ser Asp Lys Leu Lys Gly		
5102	785	790	795
5103	Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu		800
5104	805	810	815
5105	Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu		
5106	820	825	830
5107	Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys		
5108	835	840	845
5109	Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln		
5110	850	855	860
5111	Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Gln		
5112	865	870	875
5113	Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Val Ala Asn		880
5114	885	890	895
5115	Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr		
5116	900	905	910
5117	Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val		
5118	915	920	925
5119	Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys		
5120	930	935	940
5121	Lys Asp Leu Val Tyr Val Leu Ala Glu Glu Asn Lys Asn Ser Val Lys		
5122	945	950	955
5123	Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser		960
5124	965	970	975
5125	Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asn Lys		
5126	980	985	990
5127	Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser		
5128	995	1000	1005
5129	Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile		
5130	1010	1015	1020
5131	Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro Thr		
E--> 5132	1025	1030	1035
			(164) 1040
5133	Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln		
5134	1045	1050	1055
5135	Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu		
5136	1060	1065	1070
5137	Gln Ser Ser Val Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro		
5138	1075	1080	1085
5139	Gln Met Leu Phe Ser Lys Gln Asp Phe Asn Ser Asn His Asn Leu Thr		
5140	1090	1095	1100
5141	Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Glu		
E--> 5142	1105	1110	1115
			(112) 1120
5143	Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile		
5144	1125	1130	1135
5145	Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu		
5146	1140	1145	1150

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\Gl50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5147 Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met
5148 1155 1160 1165
5149 Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly
5150 1170 1175 1180
5151 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
E--> 5152 1185 1190 1195 120
5153 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
5154 1205 1210 1215
5155 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
5156 1220 1225 1230
5157 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
5158 1235 1240 1245
5159 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
5160 1250 1255 1260
5161 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
E--> 5162 1265 1270 1275 128
5163 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
5164 1285 1290 1295
5165 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
5166 1300 1305 1310
5167 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
5168 1315 1320 1325
5169 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
5170 1330 1335 1340
5171 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
E--> 5172 1345 1350 1355 136
5173 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
5174 1365 1370 1375
5175 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
5176 1380 1385 1390
5177 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Glu Gln
5178 1395 1400 1405
5179 Leu Thr Ala Thr Lys Thr Glu Gln Asn Ile Lys Asp Phe Glu Thr Ser
5180 1410 1415 1420
5181 Asp Thr Phe Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
E--> 5182 1425 1430 1435 144
5183 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
5184 1445 1450 1455
5185 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
5186 1460 1465 1470
5187 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
5188 1475 1480 1485
5189 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
5190 1490 1495 1500
5191 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
E--> 5192 1505 1510 1515 152
5193 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Val Lys Ile Ala Lys
5194 1525 1530 1535
5195 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5196	1540	1545	1550
5197	Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys	1555	1560
5198	1560	1565	
5199	Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu	1570	1575
5200	1580		
5201	Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn	1585	1590
E--> 5202	1595	1600	
5203	Asp Lys Asn Leu Val Ser Ile Glu Thr Val Val Pro Pro Lys Leu Leu	1605	1610
5204	1615		
5205	Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser	1620	1625
5206	1630		
5207	Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala	1635	1640
5208	1645		
5209	Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile	1650	1655
5210	1660		
5211	Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser	1665	1670
E--> 5212	1675	1680	
5213	Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly	1685	1690
5214	1695		
5215	Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly	1700	1705
5216	1710		
5217	Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp	1715	1720
5218	1725		
5219	Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser	1730	1735
5220	1740		
5221	Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser	1745	1750
E--> 5222	1755	1760	
5223	Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu	1765	1770
5224	1775		
5225	Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser	1780	1785
5226	1790		
5227	Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile	1795	1800
5228	1805		
5229	Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn	1810	1815
5230	1820		
5231	Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly	1825	1830
E--> 5232	1835	1840	
5233	Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His	1845	1850
5234	1855		
5235	Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys	1860	1865
5236	1870		
5237	Val Ile Lys Glu Asn Asn Glu Ash Lys Ser Lys Ile Cys Gln Thr Lys	1875	1880
5238	1885		
5239	Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu	1890	1895
5240	1900		
5241	His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val	1905	1910
E--> 5242	1915	1920	
5243	Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met	1925	1930
5244	1935		

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5245 Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu
 5246 1940 1945 1950
 5247 Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser
 5248 1955 1960 1965
 5249 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 5250 1970 1975 1980
 5251 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
E--> 5252 1985 1990 1995 200
 5253 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 5254 2005 2010 2015
 5255 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 5256 2020 2025 2030
 5257 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Phe Ser Tyr Asn
 5258 2035 2040 2045
 5259 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 5260 2050 2055 2060
 5261 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
E--> 5262 2065 2070 2075 208
 5263 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 5264 2085 2090 2095
 5265 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 5266 2100 2105 2110
 5267 Asn Pro Glu His Cys Val Asn Ser Gln Met Glu Lys Thr Cys Ser Lys
 5268 2115 2120 2125
 5269 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Ser Ser Glu
 5270 2130 2135 2140
 5271 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
E--> 5272 2145 2150 2155 216
 5273 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 5274 2165 2170 2175
 5275 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 5276 2180 2185 2190
 5277 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 5278 2195 2200 2205
 5279 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 5280 2210 2215 2220
 5281 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
E--> 5282 2225 2230 2235 224
 5283 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 5284 2245 2250 2255
 5285 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 5286 2260 2265 2270
 5287 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 5288 2275 2280 2285
 5289 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 5290 2290 2295 2300
 5291 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
E--> 5292 2305 2310 2315 232
 5293 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg

mane

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\Gl50581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5294	2325	2330	2335
5295	Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro		
5296	2340	2345	2350
5297	Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu		
5298	2355	2360	2365
5299	Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln		
5300	2370	2375	2380
5301	Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly		
E--> 5302	2385	2390	2395
			240
5303	Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe		
5304	2405	2410	2415
5305	His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg		
5306	2420	2425	2430
5307	Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys		
5308	2435	2440	2445
5309	Ile Asn Asp Asn Glu Ile His Gin Phe Asn Lys Asn Asn Ser Asn Gln		
5310	2450	2455	2460
5311	Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Glu Pro Leu Asp Leu		
E--> 5312	2465	2470	2475
			248
5313	Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys		
5314	2485	2490	2495
5315	Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu		
5316	2500	2505	2510
5317	Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly		
5318	2515	2520	2525
5319	Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly		
5320	2530	2535	2540
5321	Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe		
E--> 5322	2545	2550	2555
			256
5323	Gln Phe His Thr Gln Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly		
5324	2565	2570	2575
5325	Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp		
5326	2580	2585	2590
5327	Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro		
5328	2595	2600	2605
5329	Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr		
5330	2610	2615	2620
5331	Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys		
E--> 5332	2625	2630	2635
			264
5333	Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu		
5334	2645	2650	2655
5335	Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile		
5336	2660	2665	2670
5337	Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu		
5338	2675	2680	2685
5339	Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser		
5340	2690	2695	2700
5341	Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu		
E--> 5342	2705	2710	2715
			272

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

5343 Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu
 5344 2725 2730 2735
 5345 Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile
 5346 2740 2745 2750
 5347 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 5348 2755 2760 2765
 5349 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 5350 2770 2775 2780
 5351 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Pro Asp Pro Arg Pro
E--> 5352 2785 2790 2795 280
 5353 Phe Pro Leu Pro Leu Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 5354 2805 2810 2815
 5355 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 5356 2820 2825 2830
 5357 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu
 5358 2835 2840 2845
 5359 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Lys Arg Leu Glu Ala
 5360 2850 2855 2860
 5361 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
E--> 5362 2865 2870 2875 288
 5363 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 5364 2885 2890 2895
 5365 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 5366 2900 2905 2910
 5367 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 5368 2915 2920 2925
 5369 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 5370 2930 2935 2940
 5371 Gln Leu Glu Ile Arg Lys Ala Met Glu Ser Ala Glu Gln Lys Glu Gln
E--> 5372 2945 2950 2955 296
 5373 Gly Leu Ser Arg Asp Val Thr Val Trp Lys Leu Arg Ile Val Ser
 5374 2965 2970 2975
 5375 Tyr Ser Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 5376 2980 2985 2990
 5377 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 5378 2995 3000 3005
 5379 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Glu Arg Ala Asn
 5380 3010 3015 3020
 5381 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
E--> 5382 3025 3030 3035 304
 5383 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 5384 3045 3050 3055
 5385 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 5386 3060 3065 3070
 5387 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 5388 3075 3080 3085
 5389 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 5390 3090 3095 3100
 5391 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

E--> 5392 3105 3110 3115 312
 5393 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 5394 3125 3130 3135
 5395 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu
 5396 3140 3145 3150
 5397 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn
 5398 3155 3160 3165
 5399 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu
 5400 3170 3175 3180
 5401 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser
 E--> 5402 3185 3190 3195 320
 5403 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu
 5404 3205 3210 3215
 5405 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu
 5406 3220 3225 3230
 5407 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met
 5408 3235 3240 3245
 5409 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn
 5410 3250 3255 3260
 5411 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro
 E--> 5412 3265 3270 3275 328
 5413 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys
 5414 3285 3290 3295
 5415 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile
 5416 3300 3305 3310
 5417 Lys Lys Lys Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe
 5418 3315 3320 3325
 5419 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu
 5420 3330 3335 3340
 5421 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys
 E--> 5422 3345 3350 3355 336
 5423 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser
 5424 3365 3370 3375
 5425 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys
 5426 3380 3385 3390
 5427 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys
 5428 3395 3400 3405
 5429 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile
 5430 3410 3415
 6314 (2) INFORMATION FOR SEQ ID NO: 13:
 6316 (i) SEQUENCE CHARACTERISTICS:
 6317 (A) LENGTH: 3410 amino acids
 6318 (B) TYPE: amino acid
 6319 (C) STRANDEDNESS: single
 6320 (D) TOPOLOGY: linear
 6322 (ii) MOLECULE TYPE: protein
 6323 (v) FRAGMENT TYPE: internal
 6325 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
 6327 Met Pro Ile Gly Ser Lys Glu Arg Pro Thr Phe Phe Ile Phe Lys

40-46
pp

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6328	1	5	10	15
6329	Thr Arg Cys Asn Lys Ala Asp Leu Gly Pro Ile Ser Leu Asn Trp Phe			
6330	20	25	30	
6331	Glu Glu Leu Ser Ser Glu Ala Pro Pro Tyr Asn Ser Glu Pro Ala Glu			
6332	35	40	45	
6333	Glu Ser Glu His Lys Asn Asn Asn Tyr Glu Pro Asn Leu Phe Lys Thr			
6334	50	55	60	
6335	Pro Gln Arg Lys Pro Ser Tyr Asn Gln Leu Ala Ser Thr Pro Ile Ile			
6336	65	70	75	80
6337	Phe Lys Glu Gln Gly Leu Thr Leu Pro Leu Tyr Gln Ser Pro Val Lys			
6338	85	90	95	
6339	Glu Leu Asp Lys Phe Lys Leu Asp Leu Gly Arg Asn Val Pro Asn Ser			
6340	100	105	110	
6341	Arg His Lys Ser Leu Arg Thr Val Lys Thr Lys Met Asp Gln Ala Asp			
6342	115	120	125	
6343	Asp Val Ser Cys Pro Leu Leu Asn Ser Cys Leu Ser Glu Ser Pro Val			
6344	130	135	140	
6345	Val Leu Gln Cys Thr His Val Thr Pro Gln Arg Asp Lys Ser Val Val			
6346	145	150	155	160
6347	Cys Gly Ser Leu Phe His Thr Pro Lys Phe Val Lys Gly Arg Gln Thr			
6348	165	170	175	
6349	Pro Lys His Ile Ser Glu Ser Leu Gly Ala Glu Val Asp Pro Asp Met			
6350	180	185	190	
6351	Ser Trp Ser Ser Ser Leu Ala Thr Pro Pro Thr Leu Ser Ser Thr Val			
6352	195	200	205	
6353	Leu Ile Val Arg Asn Glu Glu Ala Ser Glu Thr Val Phe Pro His Asp			
6354	210	215	220	
6355	Thr Thr Ala Asn Val Lys Ser Tyr Phe Ser Asn His Asp Glu Ser Leu			
6356	225	230	235	240
6357	Lys Lys Asn Asp Arg Phe Ile Ala Ser Val Thr Asp Ser Glu Asn Thr			
6358	245	250	255	
6359	Asn Gln Arg Glu Ala Ala Ser His Gly Phe Gly Lys Thr Ser Gly Asn			
6360	260	265	270	
6361	Ser Phe Lys Val Asn Ser Cys Lys Asp His Ile Gly Lys Ser Met Pro			
6362	275	280	285	
6363	His Val Leu Glu Asp Glu Val Tyr Glu Thr Val Val Asp Thr Ser Glu			
6364	290	295	300	
6365	Glu Asp Ser Phe Ser Leu Cys Phe Ser Lys Cys Arg Thr Lys Asn Leu			
6366	305	310	315	320
6367	Gln Lys Val Arg Thr Ser Lys Thr Arg Lys Ile Phe His Glu Ala			
6368	325	330	335	
6369	Asn Ala Asp Glu Cys Glu Lys Ser Lys Asn Gln Val Lys Glu Lys Tyr			
6370	340	345	350	
6371	Ser Phe Val Ser Glu Val Glu Pro Asn Asp Thr Asp Pro Leu Asp Ser			
6372	355	360	365	
6373	Asn Val Ala His Gln Lys Pro Phe Glu Ser Gly Ser Asp Lys Ile Ser			
6374	370	375	380	
6375	Lys Glu Val Val Pro Ser Leu Ala Cys Glu Trp Ser Gln Leu Thr Leu			
6376	385	390	395	400

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6377	Ser	Gly	Leu	Asn	Gly	Ala	Gln	Met	Glu	Lys	Ile	Pro	Leu	Leu	His	Ile
6378					405				410						415	
6379	Ser	Ser	Cys	Asp	Gln	Asn	Ile	Ser	Glu	Lys	Asp	Leu	Leu	Asp	Thr	Glu
6380					420				425						430	
6381	Asn	Lys	Arg	Lys	Lys	Asp	Phe	Leu	Thr	Ser	Glu	Asn	Ser	Leu	Pro	Arg
6382					435				440						445	
6383	Ile	Ser	Ser	Leu	Pro	Lys	Ser	Glu	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Val
6384					450				455					460		
6385	Val	Asn	Lys	Arg	Asp	Glu	Glu	Gln	His	Leu	Glu	Ser	His	Thr	Asp	Cys
6386					465				470					475		480
6387	Ile	Leu	Ala	Val	Lys	Gln	Ala	Ile	Ser	Gly	Thr	Ser	Pro	Val	Ala	Ser
6388					485				490					495		
6389	Ser	Phe	Gln	Gly	Ile	Lys	Lys	Ser	Ile	Phe	Arg	Ile	Arg	Glu	Ser	Pro
6390					500				505					510		
6391	Lys	Glu	Thr	Phe	Asn	Ala	Ser	Phe	Ser	Gly	His	Met	Thr	Asp	Pro	Asn
6392					515				520					525		
6393	Phe	Lys	Lys	Glu	Thr	Glu	Ala	Ser	Glu	Ser	Gly	Leu	Glu	Ile	His	Thr
6394					530				535					540		
6395	Val	Cys	Ser	Gln	Lys	Glu	Asp	Ser	Leu	Cys	Pro	Asn	Leu	Ile	Asp	Asn
6396					545				550					555		560
6397	Gly	Ser	Trp	Pro	Ala	Thr	Thr	Thr	Gln	Asn	Ser	Val	Ala	Leu	Lys	Asn
6398					565				570					575		
6399	Ala	Gly	Leu	Ile	Ser	Thr	Leu	Lys	Lys	Thr	Asn	Lys	Phe	Ile	Tyr	
6400					580				585					590		
6401	Ala	Ile	His	Asp	Glu	Thr	Ser	Tyr	Lys	Gly	Lys	Lys	Ile	Pro	Lys	Asp
6402					595				600					605		
6403	Gln	Lys	Ser	Glu	Leu	Ile	Asn	Cys	Ser	Ala	Gln	Phe	Glu	Ala	Asn	Ala
6404					610				615					620		
6405	Phe	Glu	Ala	Pro	Leu	Thr	Phe	Ala	Asn	Ala	Asp	Ser	Gly	Leu	Leu	His
6406					625				630					635		640
6407	Ser	Ser	Val	Lys	Arg	Ser	Cys	'Ser	Gln	Asn	Asp	Ser	Glu	Glu	Pro	Thr
6408					645				650					655		
6409	Leu	Ser	Leu	Thr	Ser	Ser	Phe	Gly	Thr	Ile	Leu	Arg	Lys	Cys	Ser	Arg
6410					660				665					670		
6411	Asn	Glu	Thr	Cys	Ser	Asn	Asn	Thr	Val	Ile	Ser	Gln	Asp	Leu	Asp	Tyr
6412					675				680					685		
6413	Lys	Glu	Ala	Lys	Cys	Asn	Lys	Glu	Lys	Leu	Gln	Leu	Phe	Ile	Thr	Pro
6414					690				695					700		
6415	Glu	Ala	Asp	Ser	Leu	Ser	Cys	Leu	Gln	Glu	Gly	Gln	Cys	Glu	Asn	Asp
6416					705				710					715		720
6417	Pro	Lys	Ser	Lys	Val	Ser	Asp	Ile	Lys	Glu	Glu	Val	Leu	Ala	Ala	
6418					725				730					735		
6419	Ala	Cys	His	Pro	Val	Gln	His	Ser	Lys	Val	Glu	Tyr	Ser	Asp	Thr	Asp
6420					740				745					750		
6421	Phe	Gln	Ser	Gln	Lys	Ser	Leu	Leu	Tyr	Asp	His	Glu	Asn	Ala	Ser	Thr
6422					755				760					765		
6423	Leu	Ile	Leu	Thr	Pro	Thr	Ser	Lys	Asp	Val	Leu	Ser	Asn	Leu	Val	Met
6424					770				775					780		
6425	Ile	Ser	Arg	Gly	Lys	Glu	Ser	Tyr	Lys	Met	Ser	Asp	Lys	Leu	Lys	Gly

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\GL150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6426	785	790	795	800
6427	Asn Asn Tyr Glu Ser Asp Val Glu Leu Thr Lys Asn Ile Pro Met Glu			
6428	805	810	815	
6429	Lys Asn Gln Asp Val Cys Ala Leu Asn Glu Asn Tyr Lys Asn Val Glu			
6430	820	825	830	
6431	Leu Leu Pro Pro Glu Lys Tyr Met Arg Val Ala Ser Pro Ser Arg Lys			
6432	835	840	845	
6433	Val Gln Phe Asn Gln Asn Thr Asn Leu Arg Val Ile Gln Lys Asn Gln			
6434	850	855	860	
6435	Glu Glu Thr Thr Ser Ile Ser Lys Ile Thr Val Asn Pro Asp Ser Glu			
6436	865	870	875	880
6437	Glu Leu Phe Ser Asp Asn Glu Asn Asn Phe Val Phe Gln Ile Ala Asn			
6438	885	890	895	
6439	Glu Arg Asn Asn Leu Ala Leu Gly Asn Thr Lys Glu Leu His Glu Thr			
6440	900	905	910	
6441	Asp Leu Thr Cys Val Asn Glu Pro Ile Phe Lys Asn Ser Thr Met Val			
6442	915	920	925	
6443	Leu Tyr Gly Asp Thr Gly Asp Lys Gln Ala Thr Gln Val Ser Ile Lys			
6444	930	935	940	
6445	Lys Asp Leu Val Tyr Val Leu Ala Glu Asn Lys Asn Ser Val Lys			
6446	945	950	955	960
6447	Gln His Ile Lys Met Thr Leu Gly Gln Asp Leu Lys Ser Asp Ile Ser			
6448	965	970	975	
6449	Leu Asn Ile Asp Lys Ile Pro Glu Lys Asn Asn Asp Tyr Met Asp Lys			
6450	980	985	990	
6451	Trp Ala Gly Leu Leu Gly Pro Ile Ser Asn His Ser Phe Gly Gly Ser			
6452	995	1000	1005	
6453	Phe Arg Thr Ala Ser Asn Lys Glu Ile Lys Leu Ser Glu His Asn Ile			
6454	1010	1015	1020	
6455	Lys Lys Ser Lys Met Phe Phe Lys Asp Ile Glu Glu Gln Tyr Pro TM			
E--> 6456	1025	1030	1035	(104)
6457	Ser Leu Ala Cys Val Glu Ile Val Asn Thr Leu Ala Leu Asp Asn Gln			
6458	1045	1050	1055	
6459	Lys Lys Leu Ser Lys Pro Gln Ser Ile Asn Thr Val Ser Ala His Leu			
6460	1060	1065	1070	
6461	Gln Ser Ser Val Val Ser Asp Cys Lys Asn Ser His Ile Thr Pro			
6462	1075	1080	1085	
6463	Gln Met Leu Phe Ser Lys Gin Asp Phe Asn Ser Asn His Asn Leu Thr			
6464	1090	1095	1100	
6465	Pro Ser Gln Lys Ala Glu Ile Thr Glu Leu Ser Thr Ile Leu Glu Gly			
E--> 6466	1105	1110	1115	(112)
6467	Ser Gly Ser Gln Phe Glu Phe Thr Gln Phe Arg Lys Pro Ser Tyr Ile			
6468	1125	1130	1135	
6469	Leu Gln Lys Ser Thr Phe Glu Val Pro Glu Asn Gln Met Thr Ile Leu			
6470	1140	1145	1150	
6471	Lys Thr Thr Ser Glu Glu Cys Arg Asp Ala Asp Leu His Val Ile Met			
6472	1155	1160	1165	
6473	Asn Ala Pro Ser Ile Gly Gln Val Asp Ser Ser Lys Gln Phe Glu Gly			
6474	1170	1175	1180	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6475 Thr Val Glu Ile Lys Arg Lys Phe Ala Gly Leu Leu Lys Asn Asp Cys
E--> 6476 1185 1190 1195 120
 6477 Asn Lys Ser Ala Ser Gly Tyr Leu Thr Asp Glu Asn Glu Val Gly Phe
 6478 1205 1210 1215
 6479 Arg Gly Phe Tyr Ser Ala His Gly Thr Lys Leu Asn Val Ser Thr Glu
 6480 1220 1225 1230
 6481 Ala Leu Gln Lys Ala Val Lys Leu Phe Ser Asp Ile Glu Asn Ile Ser
 6482 1235 1240 1245
 6483 Glu Glu Thr Ser Ala Glu Val His Pro Ile Ser Leu Ser Ser Ser Lys
 6484 1250 1255 1260
 6485 Cys His Asp Ser Val Val Ser Met Phe Lys Ile Glu Asn His Asn Asp
E--> 6486 1265 1270 1275 128
 6487 Lys Thr Val Ser Glu Lys Asn Asn Lys Cys Gln Leu Ile Leu Gln Asn
 6488 1285 1290 1295
 6489 Asn Ile Glu Met Thr Thr Gly Thr Phe Val Glu Glu Ile Thr Glu Asn
 6490 1300 1305 1310
 6491 Tyr Lys Arg Asn Thr Glu Asn Glu Asp Asn Lys Tyr Thr Ala Ala Ser
 6492 1315 1320 1325
 6493 Arg Asn Ser His Asn Leu Glu Phe Asp Gly Ser Asp Ser Ser Lys Asn
 6494 1330 1335 1340
 6495 Asp Thr Val Cys Ile His Lys Asp Glu Thr Asp Leu Leu Phe Thr Asp
E--> 6496 1345 1350 1355 136
 6497 Gln His Asn Ile Cys Leu Lys Leu Ser Gly Gln Phe Met Lys Glu Gly
 6498 1365 1370 1375
 6499 Asn Thr Gln Ile Lys Glu Asp Leu Ser Asp Leu Thr Phe Leu Glu Val
 6500 1380 1385 1390
 6501 Ala Lys Ala Gln Glu Ala Cys His Gly Asn Thr Ser Asn Lys Gln
 6502 1395 1400 1405
 6503 Leu Thr Ala Thr Lys Thr Glu Gin Asn Ile Lys Asp Phe Glu Thr Ser
 6504 1410 1415 1420
 6505 Asp Thr Phe Gln Thr Ala Ser Gly Lys Asn Ile Ser Val Ala Lys
E--> 6506 1425 1430 1435 144
 6507 Glu Ser Phe Asn Lys Ile Val Asn Phe Phe Asp Gln Lys Pro Glu Glu
 6508 1445 1450 1455
 6509 Leu His Asn Phe Ser Leu Asn Ser Glu Leu His Ser Asp Ile Arg Lys
 6510 1460 1465 1470
 6511 Asn Lys Met Asp Ile Leu Ser Tyr Glu Glu Thr Asp Ile Val Lys His
 6512 1475 1480 1485
 6513 Lys Ile Leu Lys Glu Ser Val Pro Val Gly Thr Gly Asn Gln Leu Val
 6514 1490 1495 1500
 6515 Thr Phe Gln Gly Gln Pro Glu Arg Asp Glu Lys Ile Lys Glu Pro Thr
E--> 6516 1505 1510 1515 152
 6517 Leu Leu Gly Phe His Thr Ala Ser Gly Lys Lys Val Lys Ile Ala Lys
 6518 1525 1530 1535
 6519 Glu Ser Leu Asp Lys Val Lys Asn Leu Phe Asp Glu Lys Glu Gln Gly
 6520 1540 1545 1550
 6521 Thr Ser Glu Ile Thr Ser Phe Ser His Gln Trp Ala Lys Thr Leu Lys
 6522 1555 1560 1565
 6523 Tyr Arg Glu Ala Cys Lys Asp Leu Glu Leu Ala Cys Glu Thr Ile Glu

Darve

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6524	1570	1575	1580
6525	Ile Thr Ala Ala Pro Lys Cys Lys Glu Met Gln Asn Ser Leu Asn Asn		
E--> 6526	1585	1590	1595
6527	Asp Lys Asn Leu Val Ser Ile Glu Thr Val Pro Pro Lys Leu Leu		160
6528	1605	1610	1615
6529	Ser Asp Asn Leu Cys Arg Gln Thr Glu Asn Leu Lys Thr Ser Lys Ser		
6530	1620	1625	1630
6531	Ile Phe Leu Lys Val Lys Val His Glu Asn Val Glu Lys Glu Thr Ala		
6532	1635	1640	1645
6533	Lys Ser Pro Ala Thr Cys Tyr Thr Asn Gln Ser Pro Tyr Ser Val Ile		
6534	1650	1655	1660
6535	Glu Asn Ser Ala Leu Ala Phe Tyr Thr Ser Cys Ser Arg Lys Thr Ser		
E--> 6536	1665	1670	1675
6537	Val Ser Gln Thr Ser Leu Leu Glu Ala Lys Lys Trp Leu Arg Glu Gly		
6538	1685	1690	1695
6539	Ile Phe Asp Gly Gln Pro Glu Arg Ile Asn Thr Ala Asp Tyr Val Gly		
6540	1700	1705	1710
6541	Asn Tyr Leu Tyr Glu Asn Asn Ser Asn Ser Thr Ile Ala Glu Asn Asp		
6542	1715	1720	1725
6543	Lys Asn His Leu Ser Glu Lys Gln Asp Thr Tyr Leu Ser Asn Ser Ser		
6544	1730	1735	1740
6545	Met Ser Asn Ser Tyr Ser Tyr His Ser Asp Glu Val Tyr Asn Asp Ser		
E--> 6546	1745	1750	1755
6547	Gly Tyr Leu Ser Lys Asn Lys Leu Asp Ser Gly Ile Glu Pro Val Leu		
6548	1765	1770	1775
6549	Lys Asn Val Glu Asp Gln Lys Asn Thr Ser Phe Ser Lys Val Ile Ser		
6550	1780	1785	1790
6551	Asn Val Lys Asp Ala Asn Ala Tyr Pro Gln Thr Val Asn Glu Asp Ile		
6552	1795	1800	1805
6553	Cys Val Glu Glu Leu Val Thr Ser Ser Ser Pro Cys Lys Asn Lys Asn		
6554	1810	1815	1820
6555	Ala Ala Ile Lys Leu Ser Ile Ser Asn Ser Asn Asn Phe Glu Val Gly		
E--> 6556	1825	1830	1835
6557	Pro Pro Ala Phe Arg Ile Ala Ser Gly Lys Ile Val Cys Val Ser His		
6558	1845	1850	1855
6559	Glu Thr Ile Lys Lys Val Lys Asp Ile Phe Thr Asp Ser Phe Ser Lys		
6560	1860	1865	1870
6561	Val Ile Lys Glu Asn Asn Glu Asn Lys Ser Lys Ile Cys Gln Thr Lys		
6562	1875	1880	1885
6563	Ile Met Ala Gly Cys Tyr Glu Ala Leu Asp Asp Ser Glu Asp Ile Leu		
6564	1890	1895	1900
6565	His Asn Ser Leu Asp Asn Asp Glu Cys Ser Thr His Ser His Lys Val		
E--> 6566	1905	1910	1915
6567	Phe Ala Asp Ile Gln Ser Glu Glu Ile Leu Gln His Asn Gln Asn Met		192
6568	1925	1930	1935
6569	Ser Gly Leu Glu Lys Val Ser Lys Ile Ser Pro Cys Asp Val Ser Leu		
6570	1940	1945	1950
6571	Glu Thr Ser Asp Ile Cys Lys Cys Ser Ile Gly Lys Leu His Lys Ser		
6572	1955	1960	1965

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6573 Val Ser Ser Ala Asn Thr Cys Gly Ile Phe Ser Thr Ala Ser Gly Lys
 6574 1970 1975 1980
 6575 Ser Val Gln Val Ser Asp Ala Ser Leu Gln Asn Ala Arg Gln Val Phe
E--> 6576 1985 1990 1995 200
 6577 Ser Glu Ile Glu Asp Ser Thr Lys Gln Val Phe Ser Lys Val Leu Phe
 6578 2005 2010 2015
 6579 Lys Ser Asn Glu His Ser Asp Gln Leu Thr Arg Glu Glu Asn Thr Ala
 6580 2020 2025 2030
 6581 Ile Arg Thr Pro Glu His Leu Ile Ser Gln Lys Gly Ser Tyr Asn
 6582 2035 2040 2045
 6583 Val Val Asn Ser Ser Ala Phe Ser Gly Phe Ser Thr Ala Ser Gly Lys
 6584 2050 2055 2060
 6585 Gln Val Ser Ile Leu Glu Ser Ser Leu His Lys Val Lys Gly Val Leu
E--> 6586 2065 2070 2075 208
 6587 Glu Glu Phe Asp Leu Ile Arg Thr Glu His Ser Leu His Tyr Ser Pro
 6588 2085 2090 2095
 6589 Thr Ser Arg Gln Asn Val Ser Lys Ile Leu Pro Arg Val Asp Lys Arg
 6590 2100 2105 2110
 6591 Asn Pro Glu His Cys Val Asn Ser Glu Met Glu Lys Thr Cys Ser Lys
 6592 2115 2120 2125
 6593 Glu Phe Lys Leu Ser Asn Asn Leu Asn Val Glu Gly Gly Ser Ser Glu
 6594 2130 2135 2140
 6595 Asn Asn His Ser Ile Lys Val Ser Pro Tyr Leu Ser Gln Phe Gln Gln
E--> 6596 2145 2150 2155 216
 6597 Asp Lys Gln Gln Leu Val Leu Gly Thr Lys Val Ser Leu Val Glu Asn
 6598 2165 2170 2175
 6599 Ile His Val Leu Gly Lys Glu Gln Ala Ser Pro Lys Asn Val Lys Met
 6600 2180 2185 2190
 6601 Glu Ile Gly Lys Thr Glu Thr Phe Ser Asp Val Pro Val Lys Thr Asn
 6602 2195 2200 2205
 6603 Ile Glu Val Cys Ser Thr Tyr Ser Lys Asp Ser Glu Asn Tyr Phe Glu
 6604 2210 2215 2220
 6605 Thr Glu Ala Val Glu Ile Ala Lys Ala Phe Met Glu Asp Asp Glu Leu
E--> 6606 2225 2230 2235 224
 6607 Thr Asp Ser Lys Leu Pro Ser His Ala Thr His Ser Leu Phe Thr Cys
 6608 2245 2250 2255
 6609 Pro Glu Asn Glu Glu Met Val Leu Ser Asn Ser Arg Ile Gly Lys Arg
 6610 2260 2265 2270
 6611 Arg Gly Glu Pro Leu Ile Leu Val Gly Glu Pro Ser Ile Lys Arg Asn
 6612 2275 2280 2285
 6613 Leu Leu Asn Glu Phe Asp Arg Ile Ile Glu Asn Gln Glu Lys Ser Leu
 6614 2290 2295 2300
 6615 Lys Ala Ser Lys Ser Thr Pro Asp Gly Thr Ile Lys Asp Arg Arg Leu
E--> 6616 2305 2310 2315 232
 6617 Phe Met His His Val Ser Leu Glu Pro Ile Thr Cys Val Pro Phe Arg
 6618 2325 2330 2335
 6619 Thr Thr Lys Glu Arg Gln Glu Ile Gln Asn Pro Asn Phe Thr Ala Pro
 6620 2340 2345 2350
 6621 Gly Gln Glu Phe Leu Ser Lys Ser His Leu Tyr Glu His Leu Thr Leu

None

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6622	2355	2360	2365
6623	Glu Lys Ser Ser Ser Asn Leu Ala Val Ser Gly His Pro Phe Tyr Gln		
6624	2370	2375	2380
6625	Val Ser Ala Thr Arg Asn Glu Lys Met Arg His Leu Ile Thr Thr Gly		
E--> 6626	2385	2390	2395 240
6627	Arg Pro Thr Lys Val Phe Val Pro Pro Phe Lys Thr Lys Ser His Phe		
6628	2405	2410	2415
6629	His Arg Val Glu Gln Cys Val Arg Asn Ile Asn Leu Glu Glu Asn Arg		
6630	2420	2425	2430
6631	Gln Lys Gln Asn Ile Asp Gly His Gly Ser Asp Asp Ser Lys Asn Lys		
6632	2435	2440	2445
6633	Ile Asn Asp Asn Glu Ile His Gln Phe Asn Lys Asn Asn Ser Asn Gln		
6634	2450	2455	2460
6635	Ala Ala Ala Val Thr Phe Thr Lys Cys Glu Glu Pro Leu Asp Leu		
E--> 6636	2465	2470	2475 248
6637	Ile Thr Ser Leu Gln Asn Ala Arg Asp Ile Gln Asp Met Arg Ile Lys		
6638	2485	2490	2495
6639	Lys Lys Gln Arg Gln Arg Val Phe Pro Gln Pro Gly Ser Leu Tyr Leu		
6640	2500	2505	2510
6641	Ala Lys Thr Ser Thr Leu Pro Arg Ile Ser Leu Lys Ala Ala Val Gly		
6642	2515	2520	2525
6643	Gly Gln Val Pro Ser Ala Cys Ser His Lys Gln Leu Tyr Thr Tyr Gly		
6644	2530	2535	2540
6645	Val Ser Lys His Cys Ile Lys Ile Asn Ser Lys Asn Ala Glu Ser Phe		
E--> 6646	2545	2550	2555 256
6647	Gln Phe His Thr Glu Asp Tyr Phe Gly Lys Glu Ser Leu Trp Thr Gly		
6648	2565	2570	2575
6649	Lys Gly Ile Gln Leu Ala Asp Gly Gly Trp Leu Ile Pro Ser Asn Asp		
6650	2580	2585	2590
6651	Gly Lys Ala Gly Lys Glu Glu Phe Tyr Arg Ala Leu Cys Asp Thr Pro		
6652	2595	2600	2605
6653	Gly Val Asp Pro Lys Leu Ile Ser Arg Ile Trp Val Tyr Asn His Tyr		
6654	2610	2615	2620
6655	Arg Trp Ile Ile Trp Lys Leu Ala Ala Met Glu Cys Ala Phe Pro Lys		
E--> 6656	2625	2630	2635 264
6657	Glu Phe Ala Asn Arg Cys Leu Ser Pro Glu Arg Val Leu Leu Gln Leu		
6658	2645	2650	2655
6659	Lys Tyr Arg Tyr Asp Thr Glu Ile Asp Arg Ser Arg Arg Ser Ala Ile		
6660	2660	2665	2670
6661	Lys Lys Ile Met Glu Arg Asp Asp Thr Ala Ala Lys Thr Leu Val Leu		
6662	2675	2680	2685
6663	Cys Val Ser Asp Ile Ile Ser Leu Ser Ala Asn Ile Ser Glu Thr Ser		
6664	2690	2695	2700
6665	Ser Asn Lys Thr Ser Ser Ala Asp Thr Gln Lys Val Ala Ile Ile Glu		
E--> 6666	2705	2710	2715 272
6667	Leu Thr Asp Gly Trp Tyr Ala Val Lys Ala Gln Leu Asp Pro Pro Leu		
6668	2725	2730	2735
6669	Leu Ala Val Leu Lys Asn Gly Arg Leu Thr Val Gly Gln Lys Ile Ile		
6670	2740	2745	2750

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6671 Leu His Gly Ala Glu Leu Val Gly Ser Pro Asp Ala Cys Thr Pro Leu
 6672 2755 2760 2765
 6673 Glu Ala Pro Glu Ser Leu Met Leu Lys Ile Ser Ala Asn Ser Thr Arg
 6674 2770 2775 2780
 6675 Pro Ala Arg Trp Tyr Thr Lys Leu Gly Phe Phe Pro Asp Pro Arg Pro
E--> 6676 2785 2790 2795 280
 6677 Phe Pro Leu Pro Ser Ser Leu Phe Ser Asp Gly Gly Asn Val Gly
 6678 2805 2810 2815
 6679 Cys Val Asp Val Ile Ile Gln Arg Ala Tyr Pro Ile Gln Trp Met Glu
 6680 2820 2825 2830
 6681 Lys Thr Ser Ser Gly Leu Tyr Ile Phe Arg Asn Glu Arg Glu Glu
 6682 2835 2840 2845
 6683 Lys Glu Ala Ala Lys Tyr Val Glu Ala Gln Gln Lys Arg Leu Glu Ala
 6684 2850 2855 2860
 6685 Leu Phe Thr Lys Ile Gln Glu Glu Phe Glu Glu His Glu Glu Asn Thr
E--> 6686 2865 2870 2875 288
 6687 Thr Lys Pro Tyr Leu Pro Ser Arg Ala Leu Thr Arg Gln Gln Val Arg
 6688 2885 2890 2895
 6689 Ala Leu Gln Asp Gly Ala Glu Leu Tyr Glu Ala Val Lys Asn Ala Ala
 6690 2900 2905 2910
 6691 Asp Pro Ala Tyr Leu Glu Gly Tyr Phe Ser Glu Glu Gln Leu Arg Ala
 6692 2915 2920 2925
 6693 Leu Asn Asn His Arg Gln Met Leu Asn Asp Lys Lys Gln Ala Gln Ile
 6694 2930 2935 2940
 6695 Gln Leu Glu Ile Arg Lys Thr Met Glu Ser Ala Glu Gln Lys Glu Gln
E--> 6696 2945 2950 2955 296
 6697 Gly Leu Ser Arg Asp Val Thr Val Trp Lys Leu Arg Ile Val Ser
 6698 2965 2970 2975
 6699 Tyr Ser Lys Lys Glu Lys Asp Ser Val Ile Leu Ser Ile Trp Arg Pro
 6700 2980 2985 2990
 6701 Ser Ser Asp Leu Tyr Ser Leu Leu Thr Glu Gly Lys Arg Tyr Arg Ile
 6702 2995 3000 3005
 6703 Tyr His Leu Ala Thr Ser Lys Ser Lys Ser Glu Arg Ala Asn
 6704 3010 3015 3020
 6705 Ile Gln Leu Ala Ala Thr Lys Lys Thr Gln Tyr Gln Gln Leu Pro Val
E--> 6706 3025 3030 3035 304
 6707 Ser Asp Glu Ile Leu Phe Gln Ile Tyr Gln Pro Arg Glu Pro Leu His
 6708 3045 3050 3055
 6709 Phe Ser Lys Phe Leu Asp Pro Asp Phe Gln Pro Ser Cys Ser Glu Val
 6710 3060 3065 3070
 6711 Asp Leu Ile Gly Phe Val Val Ser Val Val Lys Lys Thr Gly Leu Ala
 6712 3075 3080 3085
 6713 Pro Phe Val Tyr Leu Ser Asp Glu Cys Tyr Asn Leu Leu Ala Ile Lys
 6714 3090 3095 3100
 6715 Phe Trp Ile Asp Leu Asn Glu Asp Ile Ile Lys Pro His Met Leu Ile
E--> 6716 3105 3110 3115 312
 6717 Ala Ala Ser Asn Leu Gln Trp Arg Pro Glu Ser Lys Ser Gly Leu Leu
 6718 3125 3130 3135
 6719 Thr Leu Phe Ala Gly Asp Phe Ser Val Phe Ser Ala Ser Pro Lys Glu

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:55

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

6720	3140	3145	3150
6721 Gly His Phe Gln Glu Thr Phe Asn Lys Met Lys Asn Thr Val Glu Asn	3155	3160	3165
6722 Ile Asp Ile Leu Cys Asn Glu Ala Glu Asn Lys Leu Met His Ile Leu	3170	3175	3180
6723 His Ala Asn Asp Pro Lys Trp Ser Thr Pro Thr Lys Asp Cys Thr Ser	3185	3190	3195
E--> 6726 3185	3190	3195	320
6727 Gly Pro Tyr Thr Ala Gln Ile Ile Pro Gly Thr Gly Asn Lys Leu Leu	3205	3210	3215
6728 Met Ser Ser Pro Asn Cys Glu Ile Tyr Tyr Gln Ser Pro Leu Ser Leu	3220	3225	3230
6729 Cys Met Ala Lys Arg Lys Ser Val Ser Thr Pro Val Ser Ala Gln Met	3235	3240	3245
6730 Thr Ser Lys Ser Cys Lys Gly Glu Lys Glu Ile Asp Asp Gln Lys Asn	3250	3255	3260
6731 Cys Lys Lys Arg Arg Ala Leu Asp Phe Leu Ser Arg Leu Pro Leu Pro	3265	3270	3275
E--> 6736 3265	3270	3275	328
6737 Pro Pro Val Ser Pro Ile Cys Thr Phe Val Ser Pro Ala Ala Gln Lys	3285	3290	3295
6738 Ala Phe Gln Pro Pro Arg Ser Cys Gly Thr Lys Tyr Glu Thr Pro Ile	3300	3305	3310
6739 Lys Lys Lys Glu Leu Asn Ser Pro Gln Met Thr Pro Phe Lys Lys Phe	3315	3320	3325
6740 Asn Glu Ile Ser Leu Leu Glu Ser Asn Ser Ile Ala Asp Glu Glu Leu	3330	3335	3340
6741 Ala Leu Ile Asn Thr Gln Ala Leu Leu Ser Gly Ser Thr Gly Glu Lys	3345	3350	3355
E--> 6746 3345	3350	3355	336
6747 Gln Phe Ile Ser Val Ser Glu Ser Thr Arg Thr Ala Pro Thr Ser Ser	3365	3370	3375
6748 Glu Asp Tyr Leu Arg Leu Lys Arg Arg Cys Thr Thr Ser Leu Ile Lys	3380	3385	3390
6749 Glu Gln Glu Ser Ser Gln Ala Ser Thr Glu Glu Cys Glu Lys Asn Lys	3395	3400	3405
6750 Gln Asp Thr Ile Thr Thr Lys Lys Tyr Ile	3410	3415	
6751			
6752			
6753			
6754			

Please ensure subsequent sequences showing
 The above errors are edited.

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
 TIME: 11:40:56

Input Set : A:\G150581u.txt
 Output Set: N:\CRF3\06252001\I084471B.raw

L:15 M:220 C: Keyword misspelled or invalid format, [(1) GENERAL INFORMATION:]
 L:16 M:220 C: Keyword misspelled or invalid format, [(ii) TITLE OF INVENTION:]
 L:36 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
 L:37 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
 L:75 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:94 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:115 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:122 M:111 C: (47) String data converted to upper case,
 M:111 Repeated in SeqNo=3
 L:1151 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:5
 M:332 Repeated in SeqNo=5
 L:1761 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
 L:2484 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:7
 M:332 Repeated in SeqNo=7
 L:2495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
 L:3808 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:9
 M:332 Repeated in SeqNo=9
 L:5132 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11
 M:332 Repeated in SeqNo=11
 L:6456 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:13
 M:332 Repeated in SeqNo=13
 L:6798 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6818 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6839 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6860 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6881 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6902 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6922 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6944 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:6965 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7005 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7025 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7047 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7068 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7088 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7109 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7130 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7151 M:246 W: Invalid value of Alpha Sequence Header Field, [FEATURE:], SeqNo=33
 L:7173 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7194 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7215 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7236 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7257 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7278 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7298 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7320 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7341 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
 L:7361 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/084,471B

DATE: 06/25/2001
TIME: 11:40:56

Input Set : A:\G150581u.txt
Output Set: N:\CRF3\06252001\I084471B.raw

L:7383 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7404 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7425 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7446 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7467 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7488 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7546 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7567 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7588 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7609 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7648 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7669 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7690 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7710 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7731 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7753 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]
L:7774 M:220 C: Keyword misspelled or invalid format, [(ix) FEATURE:]